

Making SPACE for Learning

Trauma Informed Practice in Schools

Brainstem

<u>Function (lower brain) - 0 to 9 months</u>	Basic life functions:
<u>Under stress</u> Impact of trauma...EARLIER INJURY IS HARDER TO REPAIR	Flight, flight & freeze response:
<u>Strategies</u> Soothing activities in young person's preferred sensory modality What strategies do you already understand/not yet understand?	

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Cerebellum

<u>Function (lower brain) - 6 months to 2 years</u> Not very genetically controlled Therefore susceptible to the environment	Movement and balance:
<u>Under stress</u> Impact of trauma...EARLIER INJURY IS HARDER TO REPAIR	Apparent inability to sense where their body is in space resulting in:
<u>Strategies</u> Movement based, soothing activities What strategies do you already understand/not yet understand?	

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Limbic Lobe

<p>Function (middle brain) - 1 to 4 years Helps us attach an emotion to a thought or memory</p>	<p>Emotional gateway - this part of the brain is particularly involved with</p>
<p>Under stress Particularly involved with the emotions of fear and anger and feelings of pleasure that are related to our survival, such as those experienced from eating and sex</p>	<p>Might display more emotionally expressive or explosive behaviours:</p>
<p>Strategies Attach feelings to memories (remember how it felt when...) What strategies do you already understand/not yet understand?</p>	<p>Feelings based activities:</p>

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Diencephalon

Function (middle brain) – 6 months to 2 years
Helps us to sorting & sending sensory data relayed via the brainstem to the cortex
When survival is under threat this area of the brain initiates fight, flight or freeze

Thalamus gathers data together from the external world as well as the internal world via our senses (sight, hearing, taste, smell and our awareness of where we are in space)

Under stress
Impact of trauma...EARLIER DAMAGE IS HARDER TO REPAIR

Sensory associations are important to the infant so traumatised child may become:

Strategies
Attach feelings to memories (remember how it felt when...)
What strategies do you already understand/not yet understand?

In addition to previous soothing, rhythmic, movement activities:

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Amygdala & Hippocampus

Function (middle brain) – fully functioning at birth

Amygdala interprets sensory input. Under threat, it sends messages to the Hypothalamus to control hormonal release in preparation for a fight-or-flight response.

Hippocampus (matures between 2 & 3 years of age) organises memories so the amygdala can interpret an event in the future

Under stress

Impaired amygdala response in young people results in difficulty recognizing emotional expression (face or their voice)

Strategies

Amygdala: responsible for arousal necessary in evaluating threat and danger

Amygdala and the hippocampus combine to generalize fear responses to the context in which original fear response was generated

Provide calm, positive sensory experiences that include an element of each of the five senses:

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Cerebral Cortex

Function (upper brain) Complex Thinking - 3 to 6 years
Higher brain function (e.g. thought and action)
Memory, attention, perceptual awareness, thought, language & consciousness

Examples of functions:

Under stress
Unable to use foresight and anticipation, focus or sustain attention

The cortical area under stress is unable to:

Strategies
Problem solving activities - break down the problem in to “bite size”, achievable goals

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The Prefrontal Cortex

Function (upper brain) Executive function – mid to late 20s

Involved in all aspects of planning and working memory. Relevant to motor activity and connects the brains motor, perceptual and limbic regions allowing coordination of processing across wide regions of the Central nervous system

Under stress

Unable to sustain attention or exercise impulse control

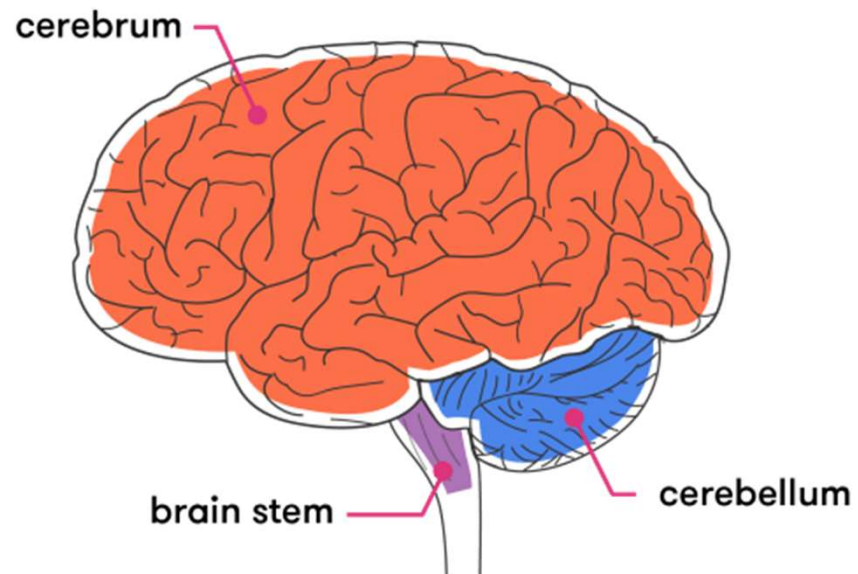
Strategies

Mindfulness activities & activities that build focussing attention, working memory, social cognition, attuned communication, involved self-regulation impulse control, judgement & reasoning.

The executive functions of the frontal lobes are:

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Area of the brain	Function	Under stress	Strategies to support
<u>Brainstem</u> Matures:			
<u>Cerebellum</u> Matures:			

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Area of the brain	Function	Under stress	Strategies to support
<u>Limbic lobe</u>			
<u>Diencephalon</u> Matures:			
<u>Amygdala</u> Matures:			
<u>Hippocampus</u> Matures:			

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Area of the brain	Function	Under stress	Strategies to support
<u>Cerebral cortex</u> Matures:			
<u>Prefrontal cortex</u> Matures:			

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Area of the brain	Functions	Under stress	Strategies to support
<u>Left hemisphere</u>			
<u>Right hemisphere</u>			